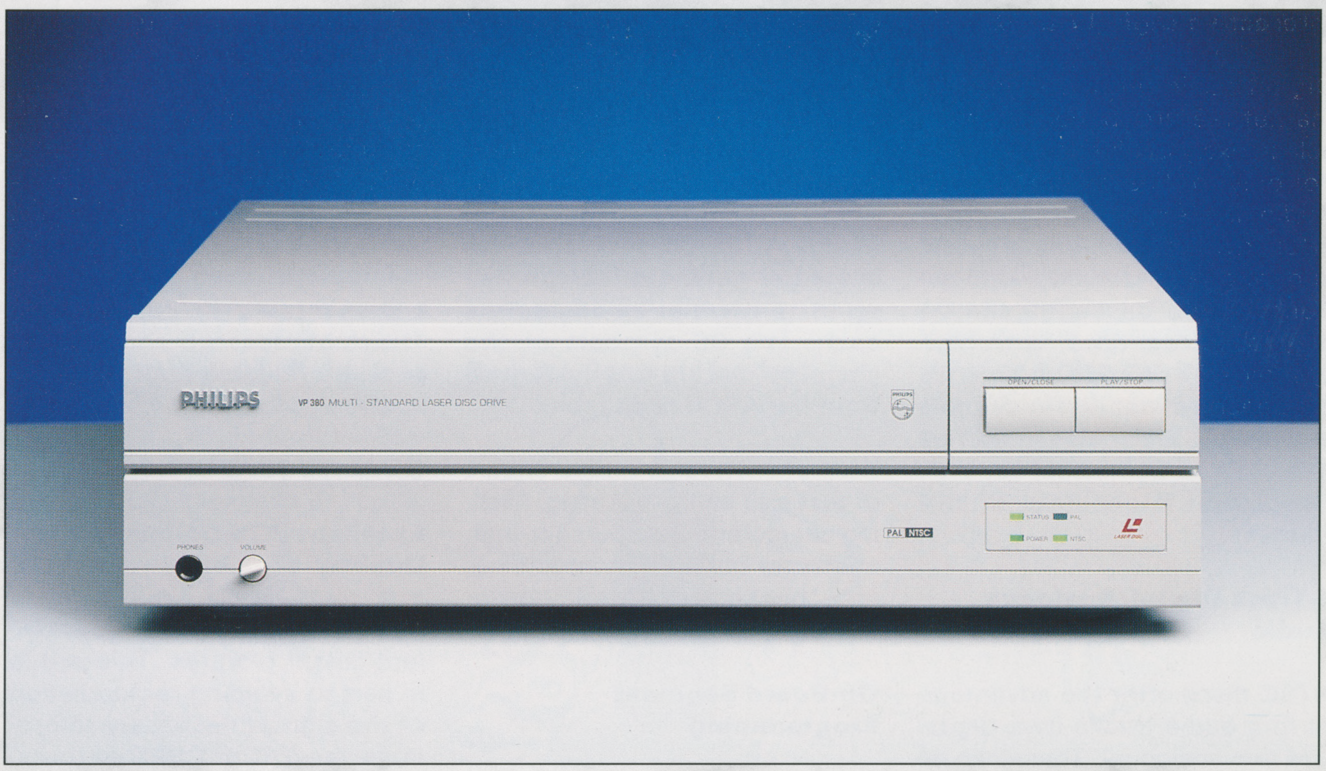
Interactive Media Systems

Professional Laser Disc/LaserVision

VP 380



PROFESSIONAL MULTI-STANDARD LASER DISC DRIVE

- **PAL/NTSC MULTI-STANDARD VIDEO accepts all Laser Disc and LaserVision discs from America, Europe and the Far East**
- **EXCELLENT RGB PICTURE QUALITY**
- **NTSC TO PAL CHROMA TRANSCODING displays NTSC discs on most PAL TVs and monitors**
- **INTERACTIVE DIGITAL AUDIO increases opportunities for creative language or music applications**
- **4-TRACK DIGITAL/ANALOGUE AUDIO from NTSC discs**
- **HIGH RELIABILITY with > 25 000 hrs MTBF**

PASSPORT TO THE WORLDS' INTERACTIVE LASER DISC CATALOGUE

The VP 380 is a new kind of professional laser disc drive which offers excellent performance with exceptional versatility. With multi-standard video to cater for both PAL and NTSC (television systems) discs, this drive will run applications from all over the world. Designed to be controlled by a host computer via the serial I/O port , the Philips VP 380, although ideally suited for the large variety of generic professional training titles now available worldwide, can also satisfy all the other application requirements of interactive Laser Disc and LaserVision, including Point-of-Sale/Point-of-Information and visual archiving.

PHILIPS

PAL/NTSC Multi-Standard Video

High-quality RGB video is now available from NTSC discs as well as PAL discs. Y/C (Super-VHS) as well as CVBS output are also provided, and with the NTSC to PAL chroma transcoding feature the VP 380 can be used with many current PAL televisions and monitors. (PAL to NTSC transcoding is also provided for NTSC televisions and monitors).

Interactive Digital Audio

Digital audio, until now an up-market feature, becomes available in exclusive interactive form, not only for Laser Disc but CD-Audio as well, providing a powerful new tool for creative music and language learning applications. Audio passages can be played, in real-time, with high accuracy. Time code commands are specified, not just in minutes and seconds, but also in frames (there are 75 frames per second). Resolution is accurate to ± 4 frames.

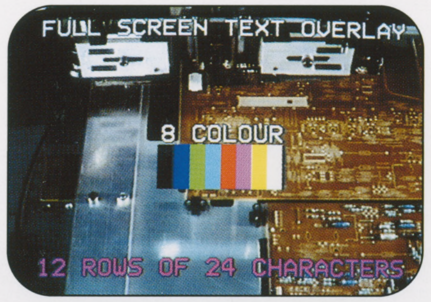
4-Track Digital/Analogue Audio

NTSC discs offer the advantage of four audio tracks (two digital and two analogue). These can be used in various ways, for example, four different languages, or hi-fi quality stereo music and dual voice tracks. CX noise reduction is available to optimize sound reproduction of the analogue audio tracks.

This totally unique combination of features not only opens up the way to more creative programs, it also extends the worldwide catalogue of discs that can be used for interactive applications.

SPECIAL FEATURES for POINT of SALE and INFORMATION:

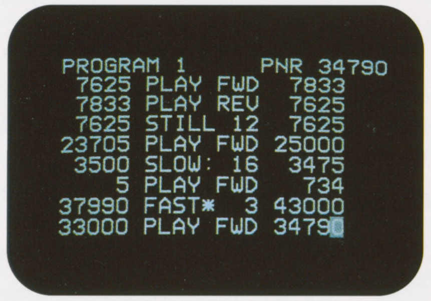
Full-screen 8-colour Text Overlay



The on-board character generator produces full screen text overlay at no additional cost. Accessible with F-Code commands via the serial I/O port, the character generator can display up to 12 rows of 24 characters each. The 96 symbols of the character set are mainly derived from the ASCII code table.

Further features include: choice of text size and positioning, flashing characters, 8 colours for text, character outline or windowing, and background and border colour.

On-Board Segment Programming



```
PROGRAM 1       PNR 34790
 7625 PLAY FWD  7833
 7833 PLAY REV  7625
 7625 STILL 12  7625
23705 PLAY FWD 25000
 3500 SLOW: 16  3475
    5 PLAY FWD   734
37990 FAST*  3 43000
33000 PLAY FWD 34790
```

Flexible program sequences can be put together using the optional remote control handset together with the on-board programming facility. Depending upon the type of disc, up to 16 picture number, chapter number, track number or time code segments can be assembled into a ready-to-run sequence with the aid of the on- screen display.

To retain the program when power is turned off, battery-backed memory is optionally available.

Continuous Play Mode

Programmed sequences (or a complete disc) can be automatically played in an endless repeating loop by simply pressing the "REPLAY" switch on the back panel. This also protects the application against unauthorised interruptions by inhibiting the front panel buttons and most of the optional remote control handset functions.

Stand-alone continuous play from an unattended VP 380 drive offers point of sale and information applications two considerable benefits:

- presents a prepared and consistent message
- saves valuable staff time and effort

QUALITY FEATURES:

Excellent RGB Colour Picture Quality

The RGB output produces excellent colour pictures. This is due in part to avoiding remodulation of the signals necessary to produce the Y/C or CVBS outputs. But it is also due to Philips microtechnology expertise used in the video processing circuits that demodulate the original laser readout signal.

Stable Pictures in All Drive Modes

The on-board sync pulse generator ensures continuous picture stability. Black screen (black burst) is always output when no video signal is available from disc. A host computer can be genlocked to the VP 380 with no picture tearing or rolling when overlaying in all play modes, including search.

The exclusive Philips digital electronic timebase correction smooths out the timing errors caused by disc eccentricity. Unique feed-forward/feed-back circuitry responds very fast to ensure high image and colour stability.

High Reliability: > 25,000 Hours MTBF

Philips electronic and mechanical engineering, based on the world's longest experience in laser disc, aims at the highest attainable reliability. State-of-the-art VLSI and surface mount technology for both video and audio signal processing; high- stability laser welding for the delicate light-pen assembly; a crystal-controlled 3-phase brushless motor for the drive deck; the considered choice of materials and dimensions for the requisite strength and durability, are all examples of the emphasis placed on reliability. The result is reassuring: a mean time between failures (MTBF) in excess of 25,000 hours.

CONTROL FEATURES:

Serial I/O Port

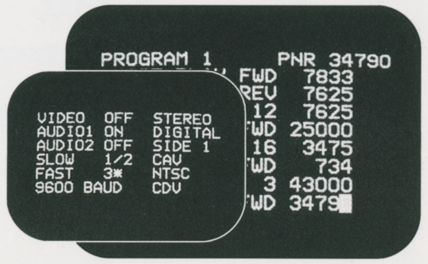
The drive can be controlled by practically any computer equiped with a serial interface conforming with the EIA standard RS-232. This interface is electrically compatible with all Philips VP400 series drives. Transmission is full duplex with a choice of two baud rates. Computer control uses the long-established Philips F-Code command set, enhanced to control further disc types and the unique features of the VP 380.

The F-Code control extensions include: Multi-Standard/Quasi Video (transcoding), digital/- analogue /CX noise reduction and more flexible control of LaserVision and Laser Disc (CAV and CLV) and CD-Audio discs.

Remote Control Handset

A full range of Level I interactive functions, for all disc types, is available with the optional wired remote control handset. This provides the drive with complete stand-alone use for initial set-up, on-board programming and direct functional control.

On-Screen Display



```
PROGRAM 1       PNR 34790
                FWD  7833
                REV  7625
                 12  7625
                FWD 25000
                 16  3475
                FWD   734
                  3 43000
                FWD 34790
```

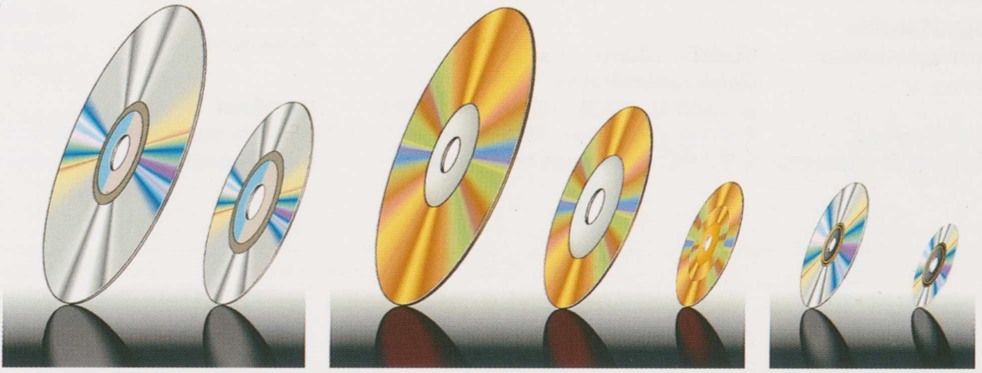
```
VIDEO   OFF   STEREO
AUDIO1  ON    DIGITAL
AUDIO2  OFF   SIDE 1
SLOW    1/2   CAV
FAST    3*    NTSC
9600 BAUD     CDV
```

Whether controlled by computer F-Code command or the remote handset, the current disc index can be displayed at the top of the screen (picture number, chapter, track or time code). Status of the drive and disc can also be displayed, and the on-screen display is also used to assist in programming automatic play segments.

MULTIDISC FEATURE:

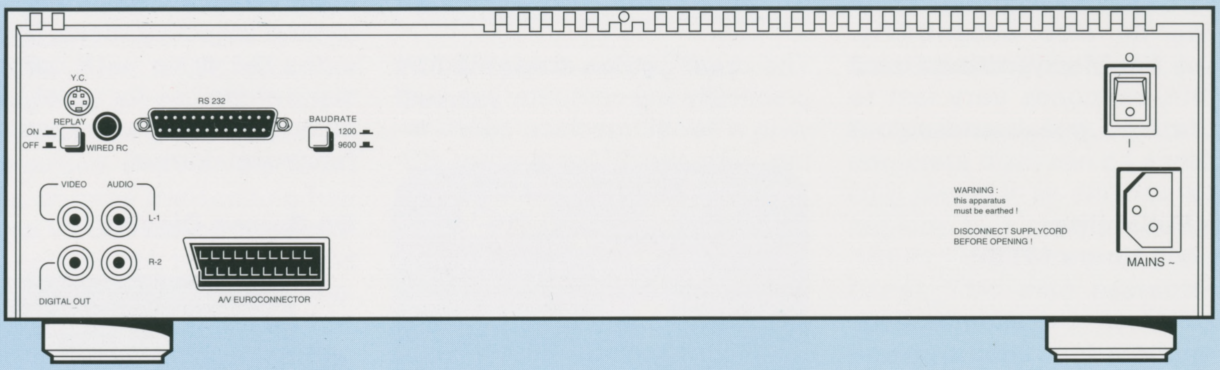
Unique Multidisc Capability

The VP 380 directly accepts all types and sizes of NTSC and PAL LaserVision, Laser Disc and CD audio discs. No adaptors of any kind are needed. The correct operating mode is automatically selected.



	LaserVision		**Laser Disc**			**Compact Disc**	
Disc Size (cm)	30	20	30	20	12	12	8
Type	CAV/CLV		CAV/CLV			CLV	
No of Sides	2/1	2/1	2/1	2/1	1	1	1
Playing Time CLV	120/60m	40/20m	120/60m	40/20m	6m	72m	20m
Access Time CAV	3 s max		3 s max			—	
Access Time CLV	12 s max		12 s max			3 s max	
Start Up Time	<20 s	≤14s	≤20s	≤14s	≤10s	≤10s	≤10s
Unload Time	<9 s	<4 s	<9 s	<4 s	<3 s	≤3s	≤3s

Rear view VP 380



TECHNICAL DATA

Connections

All connectors are female type

Front:	6.3mm stereo headphone jack
Rear:	2.5mm wired remote control handset jack Y/C output mini-DIN CVBS output Cinch Digital audio output Cinch Analogue audio output Cinch (1/L and 2/R) A/V Euroconnector (SCART/Peritel) RS-232 25-pin D

System

Disc types:	LaserVision, Laser Disc, Compact Disc
Interactive Level:	1, 3

Video

Y/C and CVBS output:	1Vpp into 75 ohm, negative sync
RGB output:	0.7V into 75 ohm
System:	625/50 RGB, PAL Y/C and CVBS 525/60 RGB, NTSC Y/C and CVBS
Video bandwidth:	PAL 5MHz (-8dB) NTSC 4.2MHz (-8dB) CVBS 3.3MHz (-6dB), encoded
Signal-to-noise ratio:	40dB (typical), unweighted (disc dependent)
Timebase instability:	< 20ns (normal play)

Digital Audio

Analogue output:	SCART: 100mV rms Cinch: 200mV rms ±1.5dB at -20dB into 1k ohm, 1kHz
Digital output:	0.5Vpp ±20% into 75 ohm
Number of channels:	2 (NTSC: in addition to analogue)
L/R unbalance:	<0.6dB
Audio bandwidth:	20Hz to 20kHz (-3dB)
Signal to noise ratio:	93dB (typical)
Dynamic range:	90dB (typical)
Channel separation:	84dB (typical)

Analogue Audio

Analogue output:	SCART: 325mV rms Cinch: 550mV rms 1k ohm at 100% modulation depth
Number of channels:	2 (NTSC: in addition to digital)
Signal to noise ratio:	53dB (typical) weighted 70dB (typical) weighted, CX on (disc dependent)
Channel separation:	53dB (typical)

Headphone

Output:	5.6V rms (max.) 50mW (max.) into 150 ohm
Impedance:	32 to 600 ohm

General

Power supply:	220 to 240V 50 to 60Hz ac
Power consumption:	50W (approx.)
Operating conditions:	10 to 35 °C 20 to 80%RH
Dimensions:	420 x 125 x 415 mm 420 x 125 x 655 mm (tray open)
Weight:	9kg (approx.) 11kg packed (approx.)
Electrical safety:	IEC 950 Class I
Reliability:	> 25,000 hrs @ 25 °C (lower confidence level 90%)

Optional

Remote control handset and wire
Battery-backed program memory

Philips
Interactive Media Systems
P.O. Box 80002
5600 JB Eindhoven
The Netherlands

The products and services described here are not necessarily available in all countries. Due to continuous product improvements this specification is subject to change without notice. Printed in the Netherlands 3122 321 30502